DORNER®

# Setup, Operation & Maintenance Manual

## 2200 Series Center Drive Conveyors


## Table of Contents

# Warnings – General Safety

**WARNING**

**The safety alert symbol, black triangle with white exclamation, is used to alert you to potential personal injury hazards.**

**DANGER**

**Climbing, sitting, walking or riding on conveyor will cause severe injury.**

**KEEP OFF CONVEYORS.**

**DANGER**

**DO NOT OPERATE CONVEYORS IN AN EXPLOSIVE ENVIRONMENT.**

**WARNING**

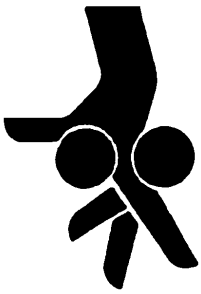
**Exposed moving parts can cause severe injury.**

**LOCK OUT POWER before removing guards or performing maintenance.**

**WARNING**

**Gearmotors may be HOT.**

**DO NOT TOUCH Gearmotors.**



**WARNING**

**Dorner cannot control the physical installation and application of conveyors. Taking protective measures is the responsibility of the user.**

**When conveyors are used in conjunction with other equipment or as part of a multiple conveyor system, CHECK FOR POTENTIAL PINCH POINTS and other mechanical hazards before system start-up.**

**WARNING**

**Loosening stand height or angle adjustment screws may cause conveyor sections to drop down, causing severe injury.**

**SUPPORT CONVEYOR SECTIONS PRIOR TO LOOSENING STAND HEIGHT OR ANGLE ADJUSTMENT SCREWS.**

# Introduction

**IMPORTANT: Some illustrations may show guards removed. DO NOT operate equipment without guards.**

Upon receipt of shipment:

- Compare shipment with packing slip. Contact factory regarding discrepancies.
- Inspect packages for shipping damage. Contact carrier regarding damage.
- Accessories may be shipped loose. See accessory instructions for installation.

Dorner's Limited Warranty applies.

Dorner 2200 Series conveyors are covered by Patent No. 5,174,435, 5,131,529 and corresponding patents and patent applications in other countries.

Dorner reserves the right to make changes at any time without notice or obligation.

# Product Description

Refer to Figure 1 for typical conveyor components.

| Typical Components | |
|---|---|
| A | Conveyor |
| B | Drive Module |
| C | Guiding & Accessories |
| D | Gearmotor Mounting Package |
| E | Gearmotor |
| F | Mounting Brackets |
| G | Support Stand |
| H | Variable Speed Controller |
| I | Fixed End |
| J | Tension End |

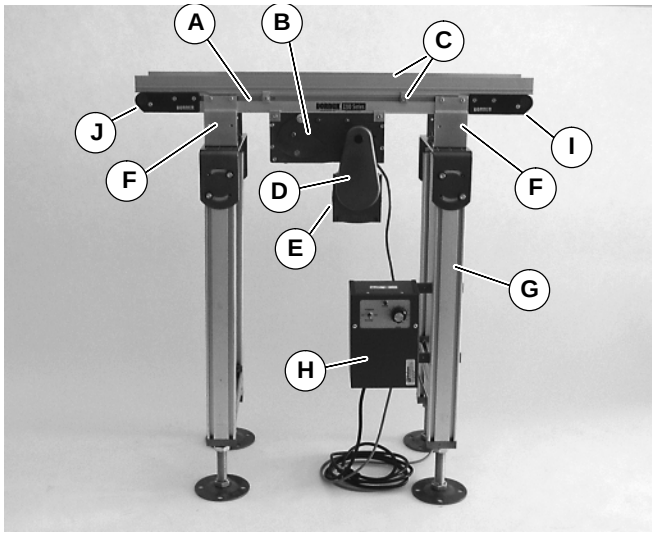



***Figure 1***

# Specifications

## Models:

### 2200 Series Center Drive Conveyor

**2 1 5 M WW LLLL A PP BB**

- **BB** — Belt Type*
- **PP** — Conveyor Profile*
- **A** — Mount Position (A or D)*
- **LLLL** — Conveyor Length Reference
- **WW** — Conveyor Width Reference
- **M** — Documentation Language: M=English
- **1** — Tail Type*

*** See Ordering and Specifications Catalog for details.**

## Conveyor Supports:

**Maximum Distances:**

**K = 18¨ (457 mm)**

**L = 6 ft (1829 mm)****

** **For conveyors longer than 13 ft (3962 mm), install support at joint.**

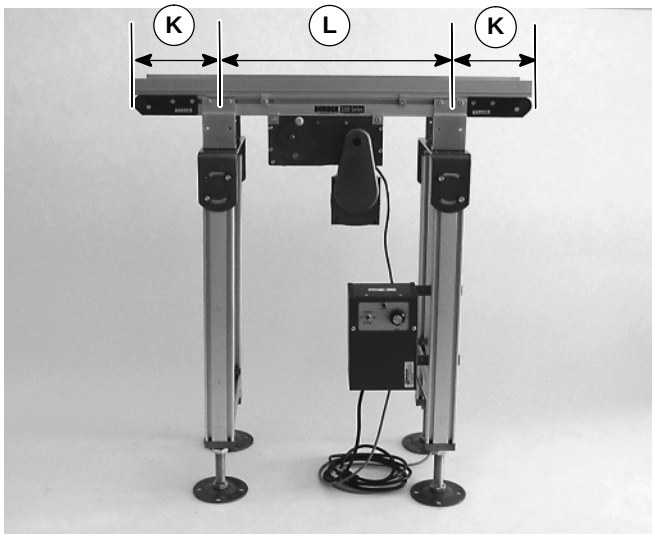



***Figure 2***

# Specifications

## Specifications:

| Conveyor Width Reference (WW) | 02 | 03 | 04 | 05 | 06 | 08 | 10 | 12 | 18 | 21 | 24 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Conveyor Belt Width | 1.75¨ (44 mm) | 2.75¨ (70 mm) | 3.75¨ (95 mm) | 5¨ (127 mm) | 6¨ (152 mm) | 8¨ (203 mm) | 10¨ (254 mm) | 12¨ (305 mm) | 18¨ (457 mm) | 21¨ (533 mm) | 24¨ (610 mm) |
| Maximum Conveyor Load* (See NOTE Below) | 40 lb (18 kg) | 50 lb (23 kg) | 60 lb (27 kg) | 75 lb (34 kg) | 90 lb (41 kg) | 105 lb (47 kg) | 120 lb (54 kg) | 120 lb (54 kg) | 120 lb (54 kg) | 120 lb (54 kg) | 120 lb (54 kg) |
| Conveyor Start-up Torque* | 9 in-lb (1.0 Nm) | 10 in-lb (1.1 Nm) | 11 in-lb (1.2 Nm) | 12 in-lb (1.4 Nm) | 15 in-lb (1.7 Nm) | 20 in-lb (2.3 Nm) | 23 in-lb (2.6 Nm) | 25 in-lb (3.4 Nm) | 30 in-lb (3.4 Nm) | 35 in-lb (4.0 Nm) | 35 in-lb (4.0 Nm) |
| Belt Travel | 4.2¨ (107 mm) per revolution of pulley | | | | | | | | | | |
| Maximum Belt Speed* | 235 feet/minute (72 meters/minute) | | | | | | | | | | |
| Belt Take-up | 1¨ (25 mm) of stroke = 2¨ (51 mm) of belt take-up | | | | | | | | | | |

| Conveyor Length Reference (LL) | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 24 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Conveyor Length | 2-ft (610 mm) | 3-ft (914 mm) | 4-ft (1219 mm) | 5-ft (1524 mm) | 6-ft (1829 mm) | 7-ft (2134 mm) | 8-ft (2438 mm) | 9-ft (2743 mm) | 10-ft (3048 mm) | 11-ft (3353 mm) | 12-ft (3658 mm) | 13-ft (3962 mm) | 24-ft (7315 mm) | 14-ft (4267 mm) | 15-ft (4572 mm) | 16-ft (4877 mm) | 17-ft (5182 mm) | 18-ft (5486 mm) | 19-ft (5791 mm) | 20-ft (6096 mm) | 21-ft (6401 mm) | 22-ft (6706 mm) | 23-ft (7010 mm) |

*** See Ordering and Specifications Catalog for details.**

**NOTE: Maximum conveyor loads based on:**

- **Non-accumulating product**
- **Product moving towards gearmotor**
- **Conveyor being mounted horizontal**

# Installation

**NOTE: Conveyor MUST be mounted straight, flat and level within confines of conveyor. Use a level (M of Figure 3) for setup.**

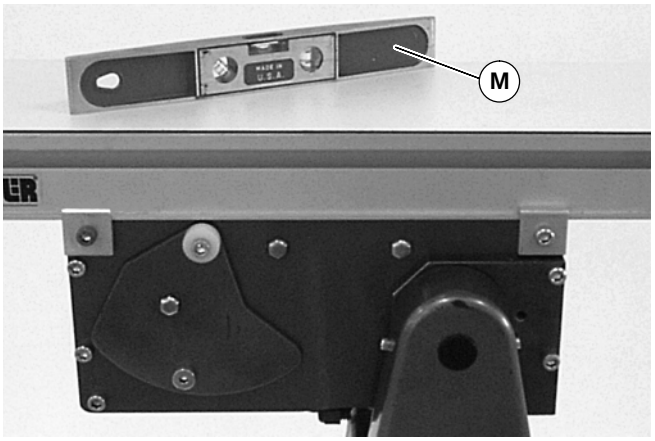



***Figure 3***

**Installation Component List**

O Conveyor fram (two sections if longer than 12ft)
P Conveyor brackets (4x)
Q Return rollers (for longer conveyors)

## Required Tools

- Hex key wrenches:
  4 mm, 5 mm
- Level
- Torque wrench

## Recommended Installation Sequence

- Install stands (see accessory instructions)
- Assemble conveyor (if required)
- Attach mounting brackets to conveyor
- Attach conveyor to stands
- Install return rollers on conveyor (optional)
- Mount gearmotor mounting package (see accessory instructions)
- Attach guides/accessories (see accessory instructions)

## Conveyors Up to 13 ft (3962 mm)

No assembly is required. Install mounting brackets and return rollers. Refer to “Mounting Brackets”, page 6 and “Return Rollers”, page 7.

## Conveyors Longer Than 13 ft (3962 mm)

**1.** Locate conveyor sections (O Figure 4)

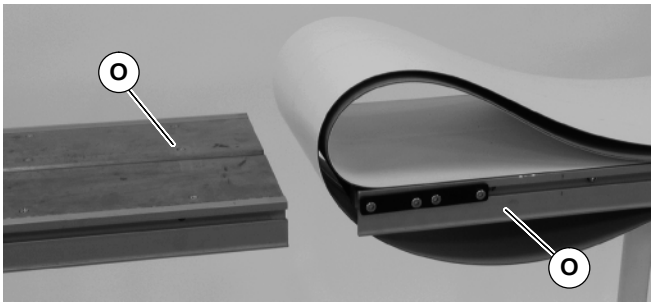



***Figure 4***

**2.** On tension end of the conveyor, identified with a label (R of Figure 5), push in head plate assembly (S): On both sides of conveyor, loosen and move cam tracking assemblies (T) (if equipped) away from head plates, then loosen fastening screws (U) and push head plate assembly inward.

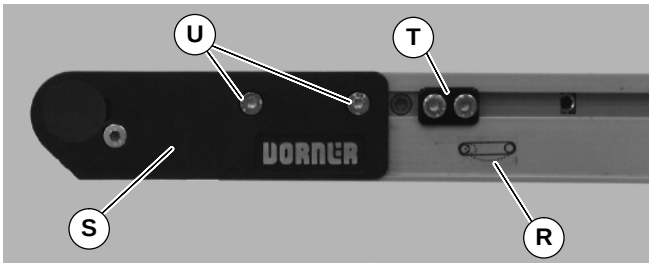



***Figure 5***

**3.** Roll out conveyor belt and place conveyor frame sections (O of Figure 6) into belt loop.

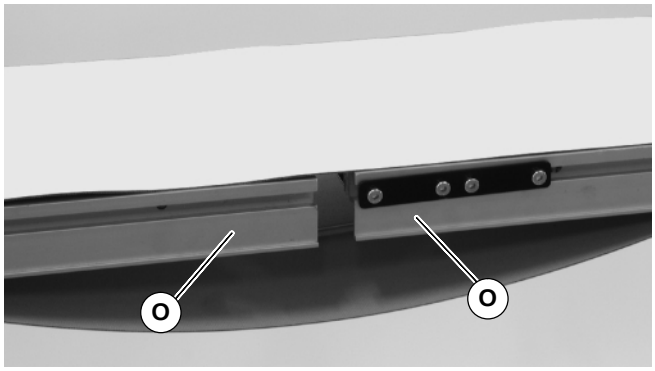



***Figure 6***

**4.** Join conveyor sections and install connector brackets (V of Figure 7) or connector/mount brackets (VA) and screws (W) on both sides as indicated. Tighten screws to 60 in-lb (7 Nm).

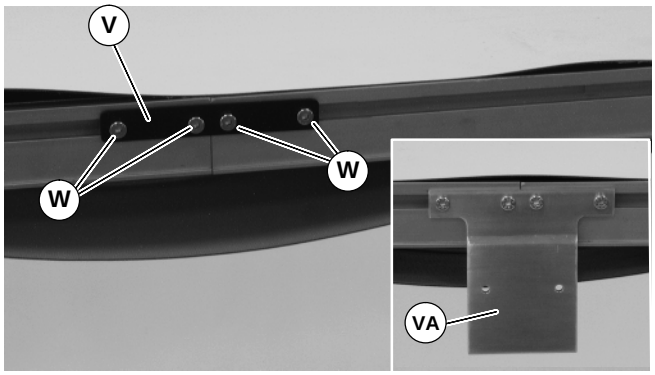



***Figure 7***

**5.** With a 5 mm hex-key wrench, rotate pinion gear (X of Figure 8) to tension the conveyor belt. Tighten fastening screws (U) on both sides of conveyor to 60 in-lb (7 Nm). For proper tensioning, refer to “Conveyor Tension End Adjustment”, page 14.

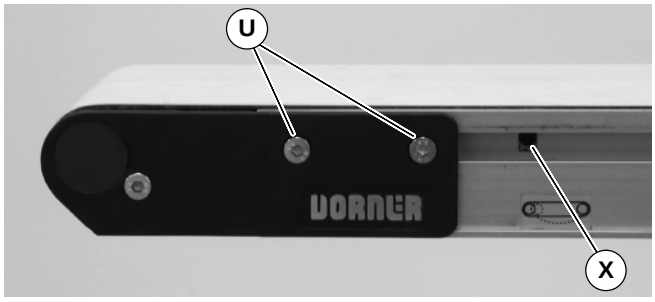


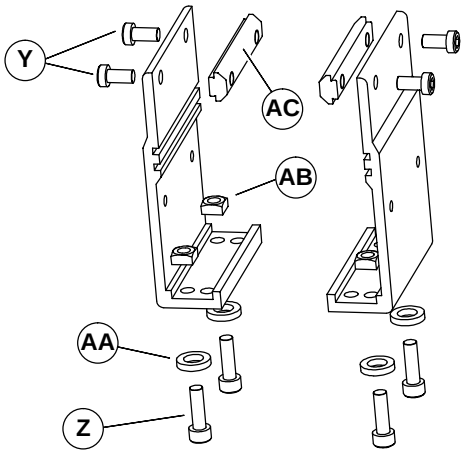

***Figure 8***

**6.** Install mounting brackets and return rollers. Refer to “Mounting Brackets”, page 6 and “Return Rollers”, page 7.

**7.** If equipped with cam tracking assemblies (T of Figure 5), adjust belt tracking. Refer to “Conveyor Belt Tracking”, page 16.

## Mounting Brackets

1. Locate brackets. Exploded views shown in Figures 9.




Mounting Brackets for Flat Belt Conveyor

***Figure 9***

2. Remove screws (Y & Z of Figures 9), washers (AA), nuts (AB) and T-bars (AC) from brackets.

3. Insert T-bars (AC of Figures 9) into conveyor side slots (AD of Figure 10). Fasten brackets (P of Figure 10) to conveyor with mounting screws (Y).

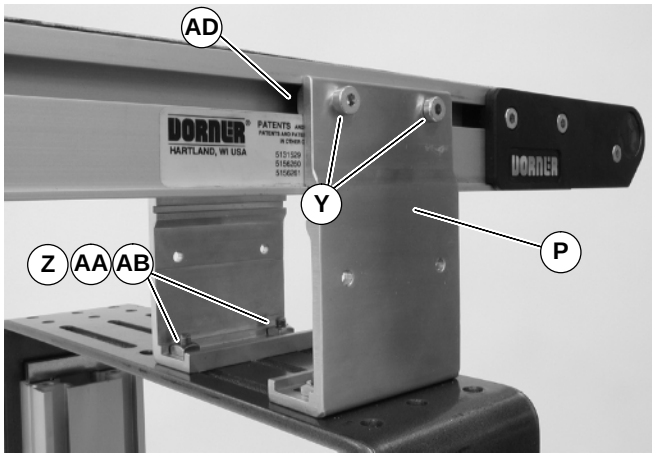



***Figure 10***

4. Fasten brackets to support stand with mounting screws (Z of Figure 10), washers (AA) and nuts (AB).

5. Tighten screws (Y & Z of Figure 10) to 60 in-lb (7 Nm).

## Return Rollers

### 2–6¨ (51–152 mm) Wide Flat Belt Conveyors

1. Locate return rollers. Exploded views shown in Figures 11.

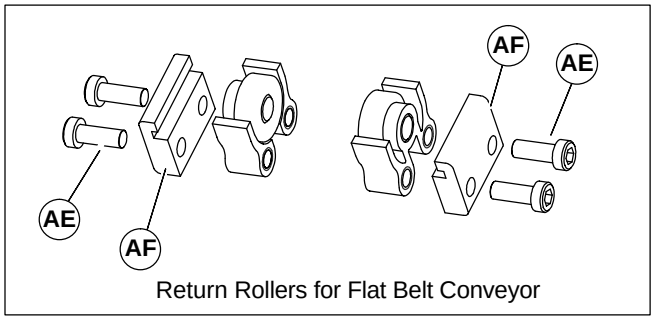



*Figure 11*

2. Remove screws (AE of Figures 11) and clips (AF) from roller assembly.

3. Install roller assemblies (Q of Figure 12) as shown. Tighten screws (AE) to 60 in-lb (7 Nm).

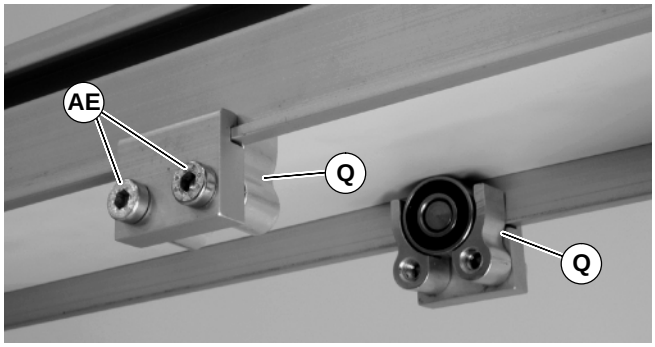



*Figure 12*

### 8–24¨ (203–610 mm) Wide Flat Belt Conveyors

1. Locate return rollers. Exploded view shown in Figure 13.

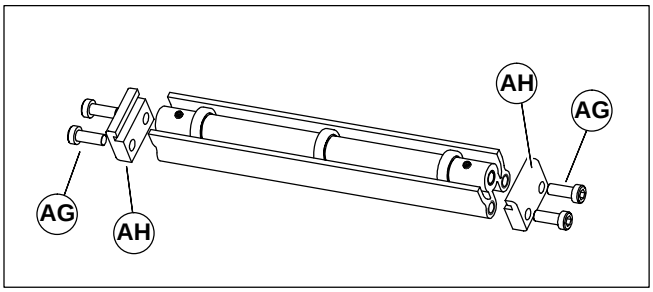



*Figure 13*

2. Remove screws (AG of Figure 13) and clips (AH) from roller assembly.

3. Install roller assembly as shown (Q of Figure 14). Tighten screws (AG) to 60 in-lb (7 Nm).

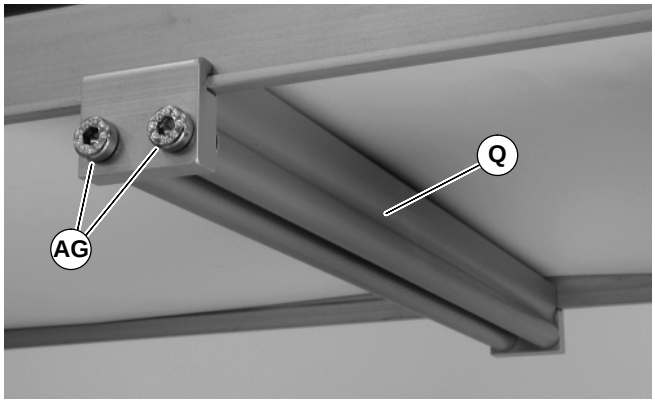



*Figure 14*

# Preventive Maintenance and Adjustment

## Required Tools

### Standard Tools

- Hex key wrenches:

| | | |
|---|---|---|
| – 2 mm | – 2.5 mm | – 3 mm |
| – 4 mm | – 5 mm | – 6 mm |

- Small flat blade screwdriver
- Adjustable wrench
- Arbor press

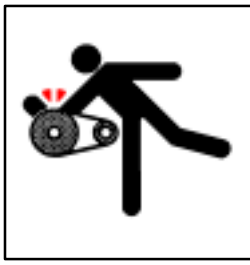
### Special Tools

- 450282, Sealed Bearing Installation Tool

## Checklist

- Keep service parts on hand. See “Service Parts” for recommendations.
- Keep supply of belt cleaner (part number 625619)
- Clean entire conveyor and knurled pulley while disassembled
- Replace worn or damaged parts

## Lubrication



**WARNING**

**Exposed moving parts can cause severe injury.**

**LOCK OUT POWER before removing guards or performing maintenance.**

### Conveyor Pulley Bearings

No lubrication is required. Replace pulley if worn.

### Drive Module Idler Pulley Bearings

No lubrication is required. Replace pulley if worn.

### Drive Module Drive Pulley Bearings

No lubrication is required. Replace bearings if worn.

### Return Rollers

No lubrication is required. Replace bearings if worn.

## Maintaining Conveyor Belt

### Troubleshooting

Inspect conveyor belt for:

- Surface cuts or wear
- Stalling or slipping

Surface cuts and wear indicate:

- Sharp or heavy parts impacting belt
- Jammed parts
- Improperly installed bottom wiper
- Accumulated dirt in wiper
- Foreign material inside the conveyor
- Improperly positioned accessories
- Bolt-on guiding is pinching belt

Stalling or slipping indicates:

- Excessive load on belt
- Conveyor belt or drive timing belt are not properly tensioned
- Worn knurl or impacted dirt on drive pulley
- Intermittent jamming or drive train problems

**NOTE: Visit www.dorner.com for complete list of troubleshooting solutions.**

### Cleaning

**IMPORTANT: Do not use belt cleaners that contain alcohol, acetone, Methyl Ethyl Ketone (MEK) or other harsh chemicals.**

Use Dorner Belt Cleaner (part number 625619). Mild soap and water may also be used. Do not soak the belt.

For /05 woven polyester and /06 black anti-static belts, use a bristled brush to improve cleaning.

## Conveyor Belt Replacement

**WARNING**

**Exposed moving parts can cause severe injury.**

**LOCK OUT POWER before removing guards or performing maintenance.**

### Conveyor Belt Replacement Sequence

**NOTE: See Table of Contents for beginning page numbers of following procedures.**

- Remove old conveyor belt:

  Conveyor without Stands or Gearmotor Mounting Package

  Conveyor with Stands and Gearmotor Mounting Package
- Drive Module Removal
- Conveyor Belt Removal from Drive Module
- Install New Conveyor Belt
- Tension Conveyor Belt

### Belt Removal for Conveyor Without Stands or Gearmotor Mounting Package

1. If equipped, remove bottom wipers (AI of Figure 15): Remove fastening screws (AJ) then remove wiper (AI).

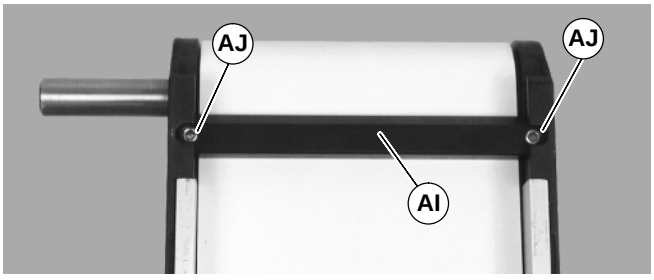



*Figure 15*

2. If equipped, remove return rollers and guiding and accessories from one side of conveyor.
3. Loosen corner screws (AK of Figure 16), on each side of the drive module (AL).

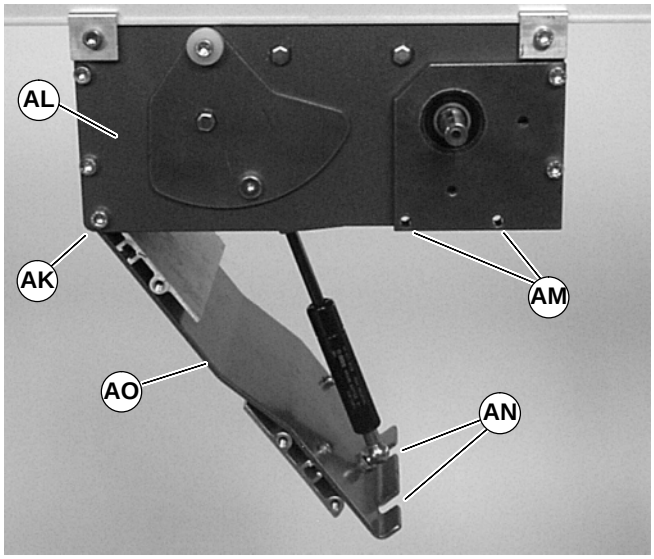



*Figure 16*

4. Remove tension door screws (AM) on each side of the drive module.
5. Using finger grip holes (AN), open the tension door (AO) to release conveyor belt tension.
6. On tension end of the conveyor, identified with a label (R of Figure 17), push in head plate assembly (S): On both sides of conveyor, loosen and move cam tracking assemblies (T) (if equipped) away from head plates, then loosen fastening screws (U) and push head plate assembly inward.

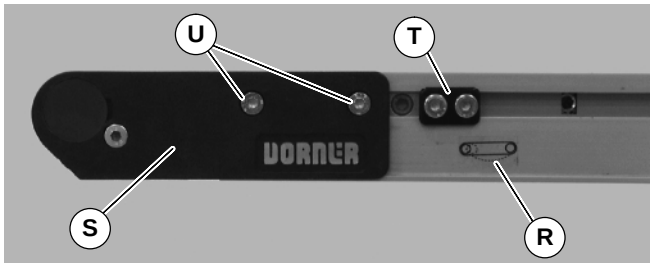



*Figure 17*

7. Remove conveyor belt from conveyor ends. See **NOTE**.

**NOTE: On conveyors 4-ft (1219 mm) and shorter by 8" (203 mm) and wider, it is be necessary to remove the drive module at the same time the conveyor belt is removed. See "Drive Module Removal", page 12.**

8. Proceed to "Drive Module Removal", page 12 and "Belt Removal from Drive Module", page 12.

### Belt Removal for Conveyor With Stands and Gearmotor Mounting Package

1. If equipped, remove bottom wipers (AI of Figure 18): Remove fastening screws (AJ) then remove wiper (AI).

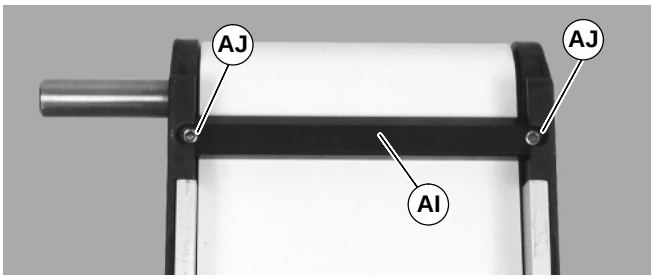



*Figure 18*

2. If equipped, remove return rollers and guiding and accessories from one side of conveyor.
3. Remove Gearmotor Mounting Package. See "Gearmotor Mounting Package Removal", page 11.
4. Loosen corner screws (AK of Figure 19), on each side of the drive module (AL).

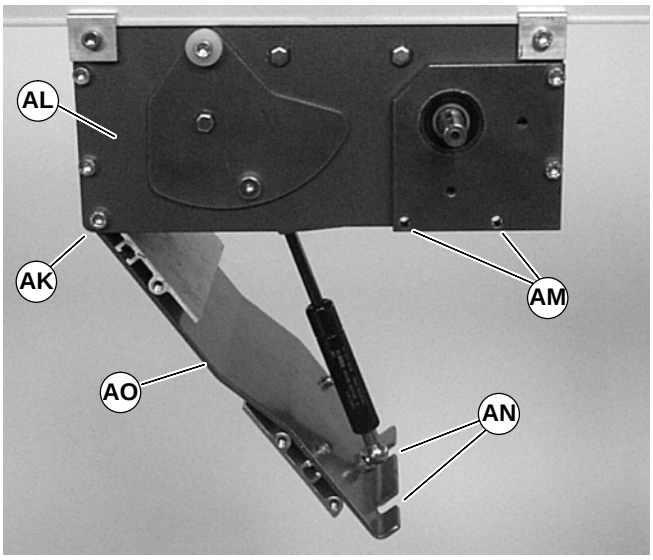



*Figure 19*

5. Remove tension door screws (AM) on each side of the drive module.

**NOTE: With vertically mounted gearmotors, tension door screws (AM) are removed from one side when the gearmotor mounting package is removed.**

6. Using finger grip holes (AN), open the tension door (AO) to release conveyor belt tension.
7. On tension end of the conveyor, identified with a  label (R of Figure 20), push in head plate assembly (S): On both sides of conveyor, loosen and move cam tracking assemblies (T) (if equipped) away from head plates, then loosen fastening screws (U) and push head plate assembly inward.

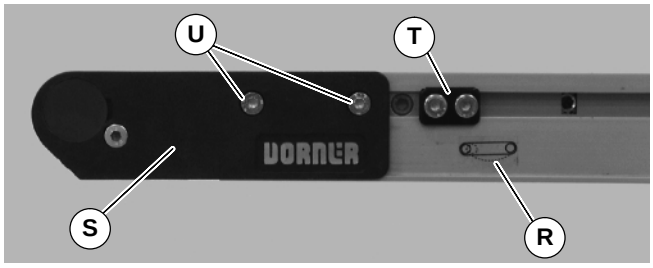



*Figure 20*

8. Place temporary support stands (AP of Figure 21) at both ends of the conveyor.

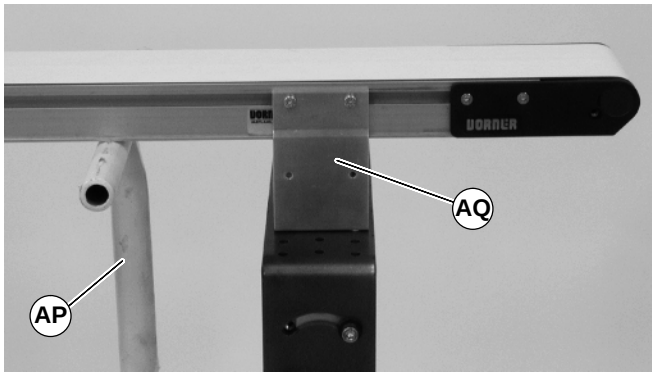



*Figure 21*

9. Remove mounting brackets (AQ of Figure 21) from one side of conveyor. (Reverse steps 3 & 4 of "Mounting Brackets" section, page 6.)
10. Remove conveyor belt from conveyor ends. See **NOTE**.

**NOTE: On conveyors 4-ft (1219 mm) and shorter by 8" (203 mm) and wider, it is be necessary to remove the drive module at the same time the conveyor belt is removed. See "Drive Module Removal", page 12.**

11. Proceed to "Drive Module Removal", page 12 and "Belt Removal from Drive Module", page 12.

### Gearmotor Mounting Package Removal

1. Remove cover screws (AR of Figure 22) and remove cover (AS).

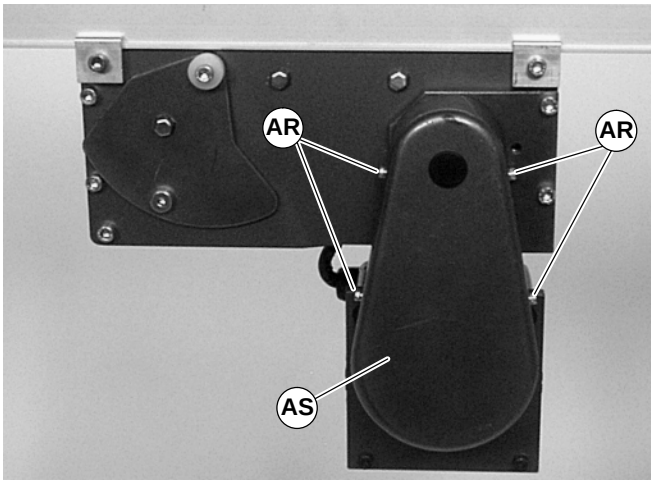



*Figure 22*

**NOTE: Figures 22 & 23 show vertically mounted gearmotor. Horizontally mounted gearmotor is similar.**

2. Loosen belt tensioner (AT of Figure 23) then remove timing belt (AU).

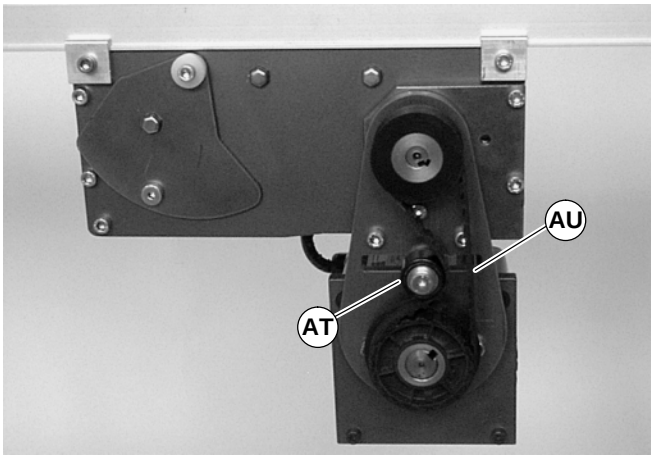



*Figure 23*

**NOTE: If the timing belt does not slide over the pulley flange, loosen the driven pulley set screws (AV of Figure 24) and remove the pulley (AW) with the belt (AY).**

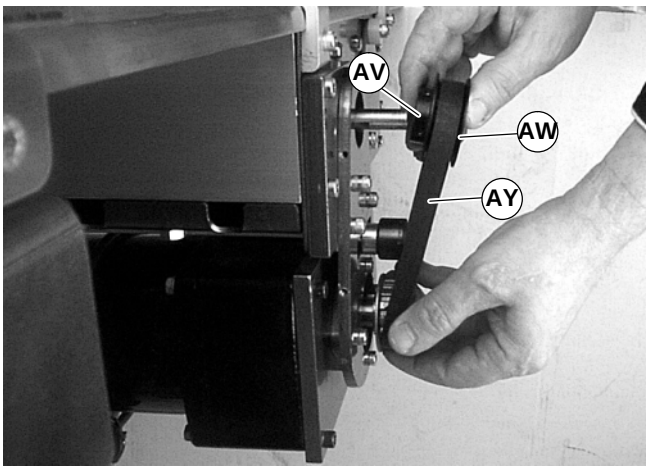



*Figure 24*

3. Remove three mounting screws (AZ of Figure 25) and remove gearmotor.

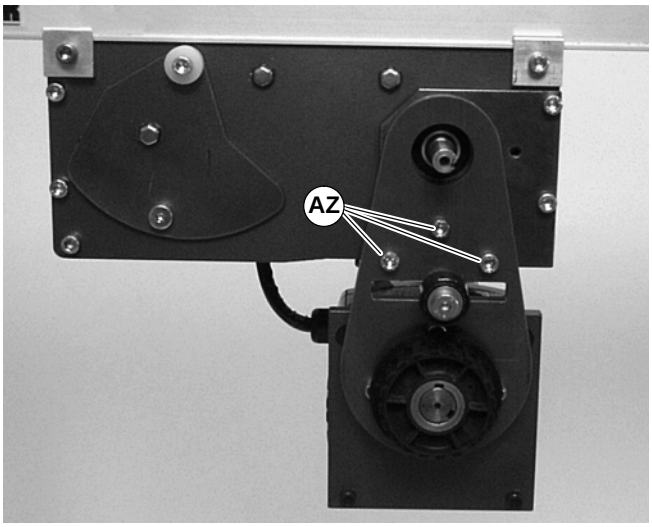
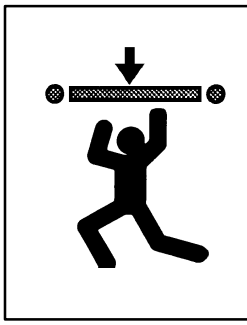



*Figure 25*

### Drive Module Removal



**WARNING**

**Removing drive module without support under the module may lead to personel injury.**

**PROVIDE SUPPORT UNDERNEATH THE DRIVE MODULE BEFORE REMOVING THE MODULE.**

**NOTE: If desired, mark position of drive module on conveyor before removal.**

1. Place temporary support (BA of Figure 26) underneath the drive module.

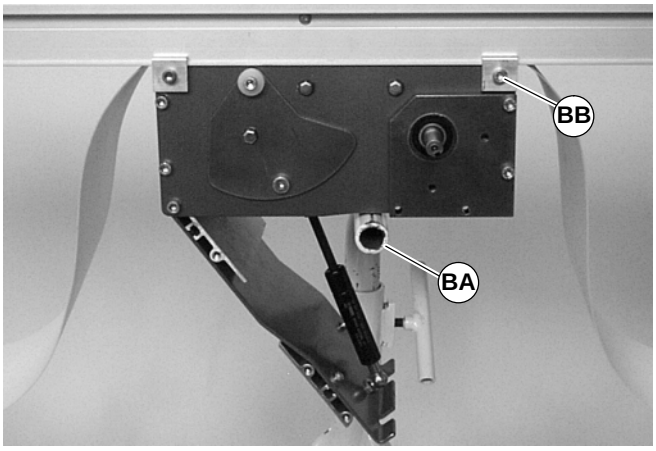



*Figure 26*

2. Loosen clamp screws (BB) on each corner of the module. Remove the module.

### Belt Removal from Drive Module

1. Remove drive plate screws (BC of Figure 27). Remove the tension drive plate (BD).

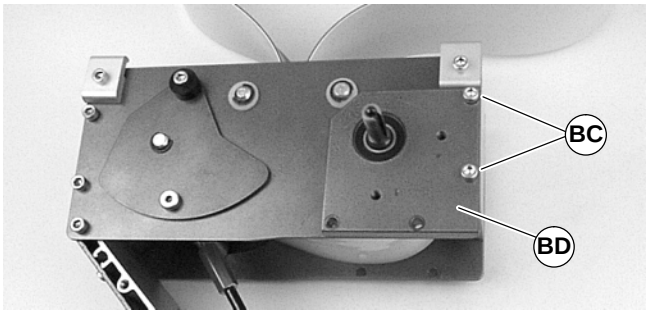



*Figure 27*

2. Remove drive pulley (BE of Figure 28).

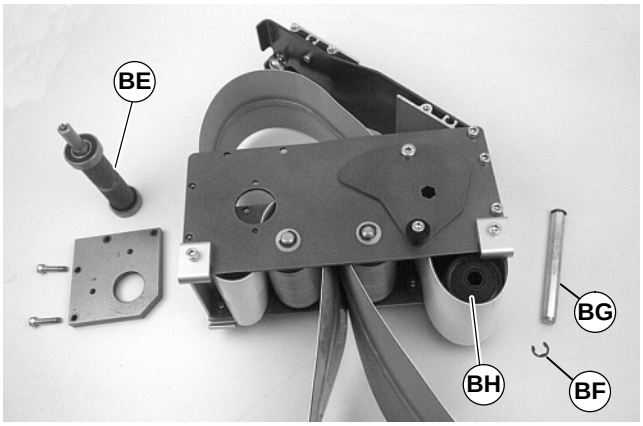



*Figure 28*

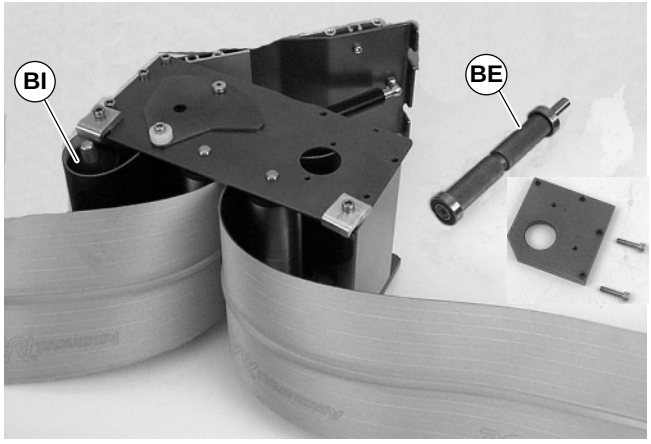


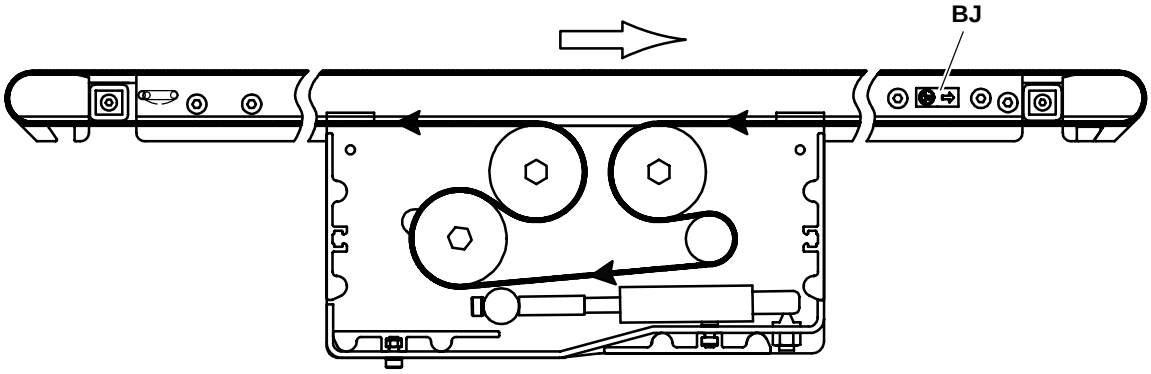

*Figure 29*

3. Remove grooved idler pulley:

   - For 2” (44 mm), 3” (70 mm) or 4” (95 mm) wide conveyor, detach E-ring clip (BF of Figure 28). Remove pulley shaft (BG) and remove pulley (BH).
   - For 5” (127 mm) or wider conveyor, depress both sides of spring-loaded shaft and remove pulley (BI of Figure 29).

4. Remove the conveyor belt.

### Conveyor Belt Installation




**Conveyor Belt Routing**

***Figure 30***

**IMPORTANT: On a center drive conveyors, belt travel direction is identified by an arrow decal on the side of the conveyor (BJ of Figures 31 & 30).**


***Figure 31***

**NOTE: It is necessary to replace the drive module at the same time the conveyor belt is replaced on conveyors 4-foot (1219 mm) and shorter by 8¨ (203 mm) and wider.**

1. Orient the conveyor belt so that the splice leading fingers (BK of Figure 32) point in the direction of belt travel, indicated by the label (BJ of Figure 31).

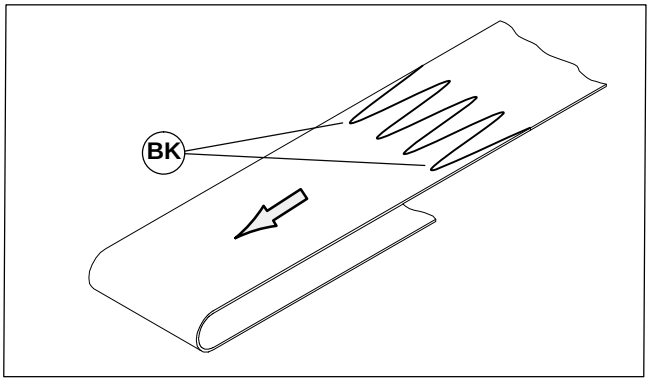



***Figure 32***

2. Place loop of belt (BL of Figure 33) into the drive module between top idler pulleys (BM).

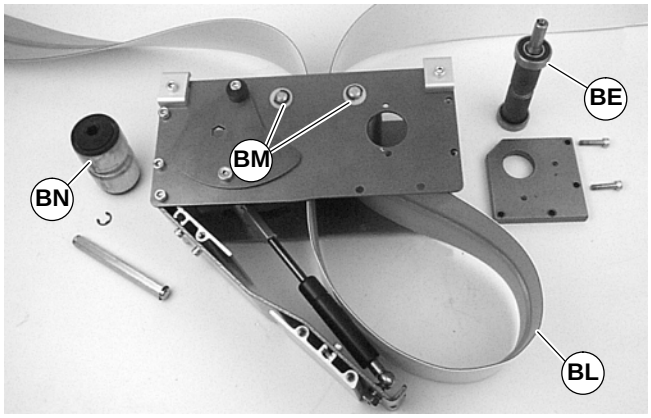
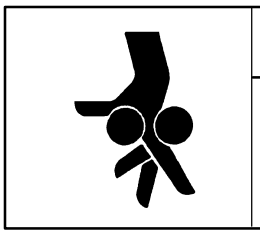



***Figure 33***

3. Place grooved idler pulley (BN of Figure 33) into the belt loop and install it in the drive module. Refer to "Belt Removal from Drive Module" on page 12 and reverse step 3.
4. Place drive pulley (BE of Figure 33) into the belt loop and install it in the drive module. Refer to "Belt Removal from Drive Module" on page 12 and reverse steps 1 and 2. Tighten screws (BC of Figure 27) to 80 in-lb (9 Nm).
5. Install the drive module onto the conveyor and attach clamps (BB of Figure 26) in each corner. Tighten screws to 80 in-lb (9 Nm).
6. Route and install the belt over both ends of the conveyor.
7. On conveyors with stands, re-install conveyor mounting brackets. Refer to "Mounting Brackets", page 6, steps 3 through 5.
8. Adjust the conveyor tensioning end. See "Conveyor Tensioning End Adjustment", page 14.



**WARNING**

**Tension door closes quickly, may cause injury.**

**KEEP FINGERS CLEAR OF TENSION DOOR.**

**9.** Carefully close the drive module tension door (BO of Figure 34). See **WARNING**.

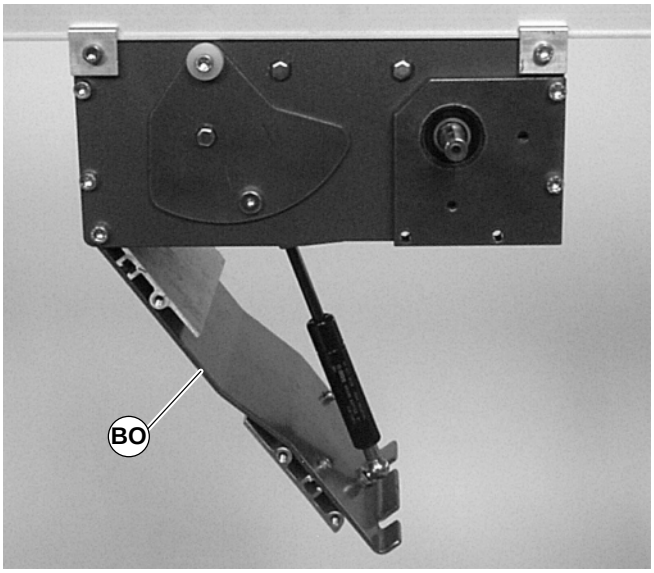



*Figure 34*

**10.** Tighten corner screws (BO of Figure 35) on each side of the drive module to 80 in-lb (9 Nm).

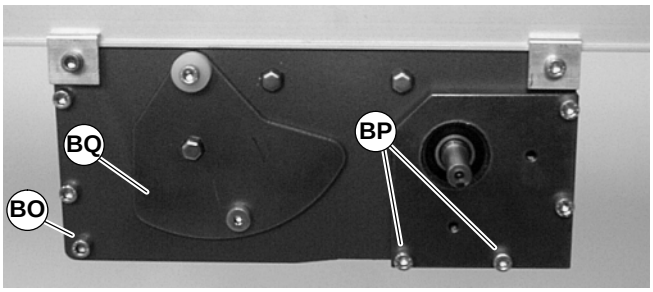



*Figure 35*

**11.** If equipped, re-install the gearmotor mounting package. Reverse steps of "Gearmotor Mounting Package Removal" procedure on page 11.

**12.** Re-install tension door screws (BP of Figure 35) on each side of the module. Tighten screws to 80 in-lb (9 Nm).

**NOTE: With vertically mounted gearmotors, tension door screws (BP) are installed on one side when the gearmotor mounting package is installed.**

**13.** If equipped, re-install bottom wipers (AI of Figure 36): Install wiper (AI) then install screws (AJ).

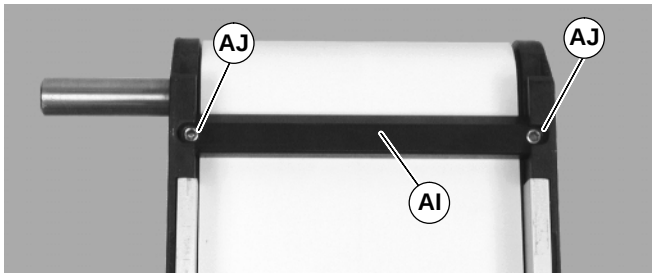



*Figure 36*

**14.** If equipped, replace guiding.

### Conveyor Tension End Adjustment

**WARNING**

**Exposed moving parts can cause severe injury.**

**LOCK OUT POWER before removing guards or performing maintenance.**

#### Conveyors with 1.25¨ (32 mm) Diameter Pulleys

**1.** On tension end of the conveyor, identified with a  label (R of Figure 37), adjust head plate assembly (S): On both sides of conveyor, loosen fastening screws (U) and rotate pinion gear (X) to adjust head plate assembly.

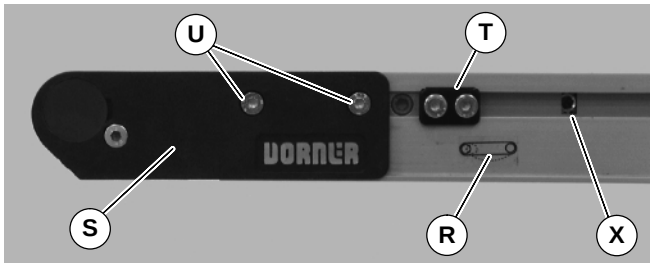



*Figure 37*

2. Adjust head plate assembly so end of conveyor frame aligns with first tensioning mark (BR of Figure 38). Tighten fastening screws (U of Figure 37) on both sides of conveyor to 60 in-lb (7 Nm).


*Figure 38*

3. If equipped with cam tracking assemblies (T of Figure 37), reposition against head plates and adjust belt tracking. Refer to "Conveyor Belt Tracking", page 16.

#### Conveyors with Nose Bar Idlers

1. On tension end of the conveyor, identified with a  label (R of Figure 39), adjust head plate assembly (S): On both sides of conveyor, loosen fastening screws (U) and rotate pinion gear (X) to adjust head plate assembly.

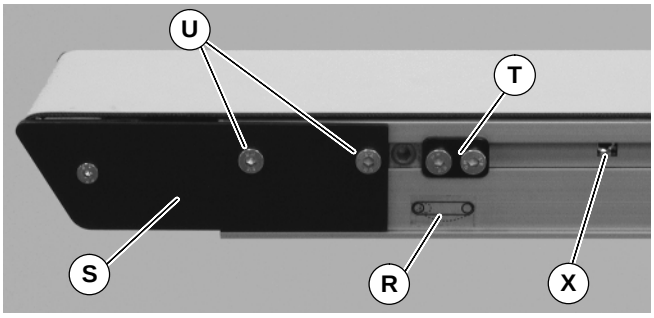



*Figure 39*

2. Adjust head plate assembly so the edge of the axle support plate (BS of Figure 40) is separated from the end of the conveyor (BT) by 1.125¨ (29 mm). Tighten fastening screws (U of Figure 39) on both sides of conveyor to 60 in-lb (7 Nm).

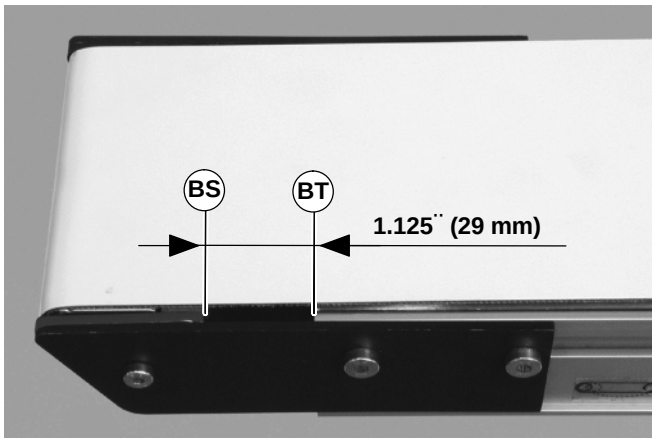


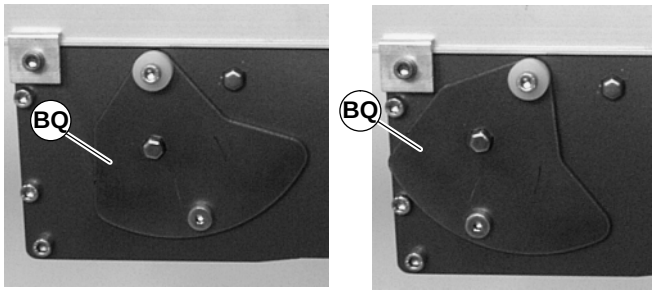

*Figure 40*

3. If equipped with cam tracking assemblies (T of Figure 39) position against head plates and adjust belt tracking. Refer to "Conveyor Belt Tracking", page 16.

### Conveyor Belt Tensioning

The conveyor is equipped with an automatic tensioning cylinder. No tensioning adjustment is required.

For a new belt, the tension plate (BQ of Figure 41) will be in position indicated below left. When the tension plate extends to position indicated below right, the conveyor belt must be replaced.




**New Belt** **Change Belt**

*Figure 41*

## Conveyor Belt Tracking

### V-Guided Belts

V-guided belts do not require tracking adjustment.

### Non V-Guided Belts

Non V-guided belt conveyors are equipped with belt tracking cam assemblies (T of Figure 42) for belt tracking adjustment.

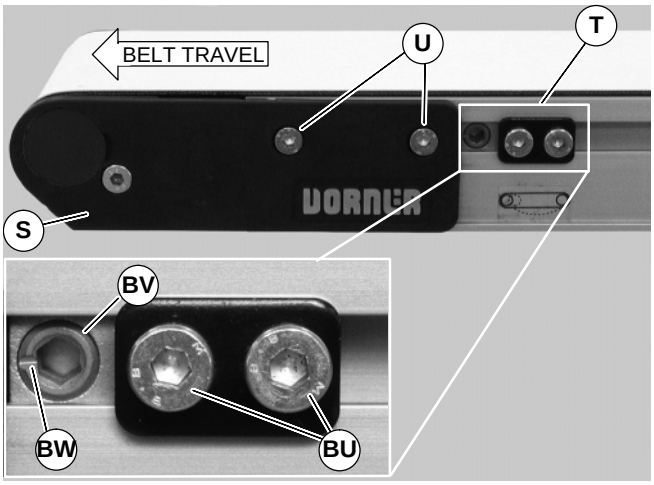



*Figure 42*

When adjusting belt tracking, always adjust the discharge end of the conveyor first. To adjust belt tracking:

1. Ensure head plate fastening screws (U of Figure 42) on both sides of conveyor are tightened.
2. On both sides of conveyor, loosen two (2) cam fastening screws (BU). Adjust cams (BV) until indicator slots (BW) are horizontal and facing end of conveyor. Then slide cam assemblies against head plates (S) and re-tighten cam fastening screws (BU) to 60 in-lb (7 Nm).
3. On the side toward which the belt is tracking, loosen head plate fastening screws (U).
4. With the conveyor running, use a 5 mm hex-key wrench to rotate the tracking cam (BV) in small increments until the belt tracks in the center of the conveyor. Then while holding the cam in position, re-tighten the head plate fastening screws (U) with a 4 mm hex-key wrench to 60 in-lb (7 Nm).

## Pulley Removal

**WARNING**

**Exposed moving parts can cause severe injury.**

**LOCK OUT POWER before removing guards or performing maintenance.**

Remove the conveyor belt to access the pulley(s). Perform the indicated steps of one of the following procedures:

- “Belt Removal for Conveyor Without Gearmotor Mounting Package or Stands”, page 9, steps 1 through 7.
- “Belt Removal for Conveyor With Stands and Gearmotor Mounting Package”, page 10, steps 1 through 10.

Remove desired pulley following procedures:

- Conveyor End Pulley Removal
- Module Drive Pulley Removal
- Module Idler Pulley Removal

### Conveyor End Pulley Removal

1. On both sides of conveyor, loosen two (2) fastening screws (U of Figure 43). Then slide idler pulley assembly out from the conveyor frame.

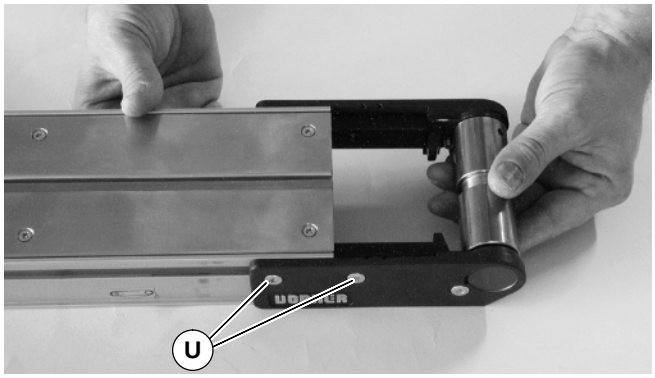



*Figure 43*

2. Remove bearing covers (BX of Figure 44).


*Figure 44*

3. With 4mm hex-key wrench, loosen pulley taper screw (BY of Figure 45). Steady pulley with second hex-key wrench (BZ) inserted into pulley hole. Repeat procedure for opposite side of pulley.

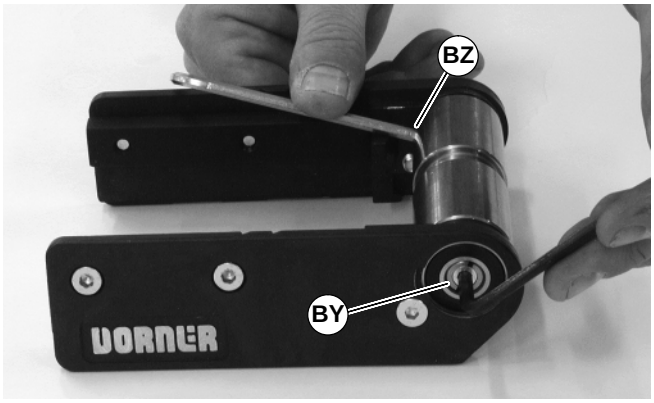



*Figure 45*

4. Pull head plates with bearings off from the pulley.

### Drive Module Drive Pulley Removal

1. Remove the gearmotor drive package. Refer to "Gearmotor Mounting Package Removal", page 11.
2. Remove the drive module. Refer to "Drive Module Removal", page 12.
3. Remove the drive pulley. Refer to "Belt Removal from Drive Module", page 12, steps 1 and 2.

### Drive Module Idler Pulley Removal

1. Remove the gearmotor drive package. Refer to "Gearmotor Mounting Package Removal", page 11.
2. Remove the drive module. Refer to "Drive Module Removal", page 12.
3. Remove the grooved idler pulley. Refer to "Belt Removal from Drive Module", page 12, step 3.
4. Remove smooth idler pulleys:

- For 2" (44 mm), 3" (70 mm) or 4" (95 mm) wide conveyor, detach E-ring clips and remove washers (CA of Figure 46). Remove pulley shafts (CB) and pulleys (CC).

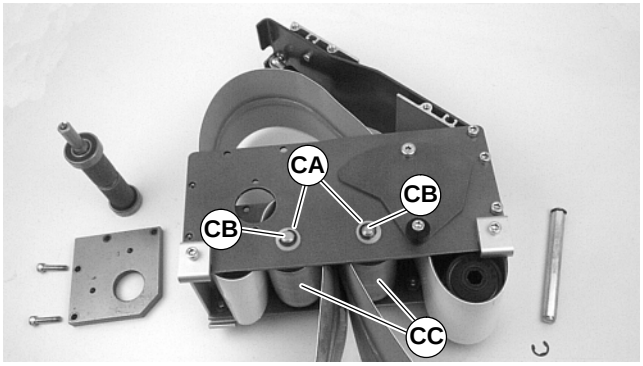



*Figure 46*

- For 5" (127 mm) or wider conveyor, depress both sides of each spring-loaded shaft (CD of Figure 47). Remove pulleys (CE).

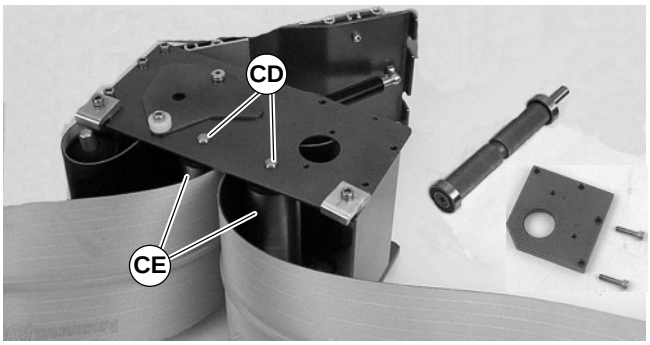



*Figure 47*

## Conveyor Pulley Bearing Replacement

### Removal

1. Turn bearing (CF of Figure 48) to align with slots (CH) in head plate. Then remove bearing.

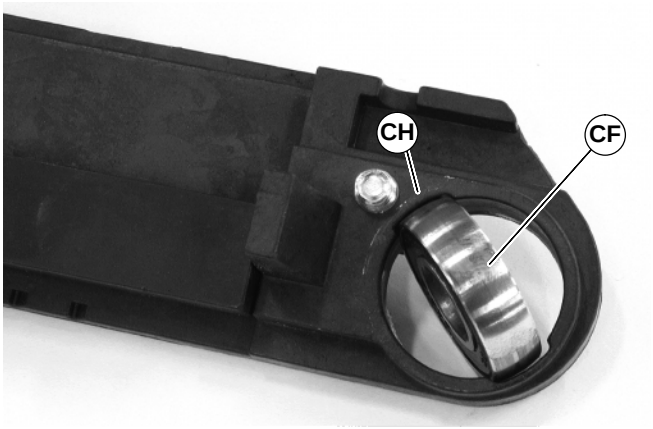



*Figure 48*

### Replacement

1. Inspect head plate bearing surface. If worn or damaged, replace head plate. See “Service Parts”, page 21.
2. Insert bearing (CF of Figure 49) into head plate slot and twist bearing to fit into bearing enclosure.

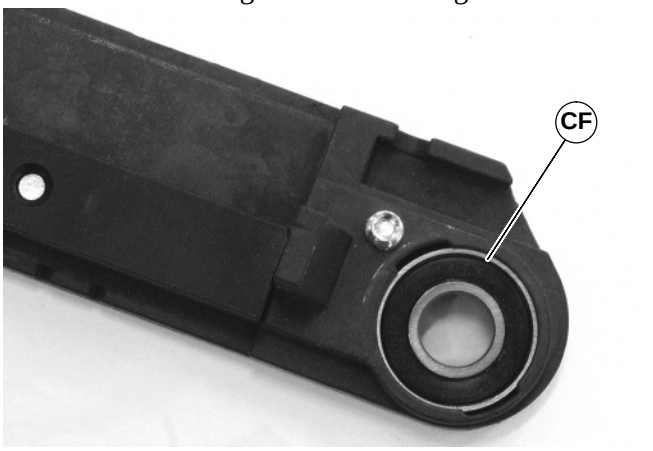



*Figure 49*

## Bearing Replacement for Drive Pulley

**IMPORTANT: Once removed, do not re-use bearings.**

### Bearing Removal

1. Locate drive pulley (CI of Figure 50) in a standard bearing separator (CJ) as shown.

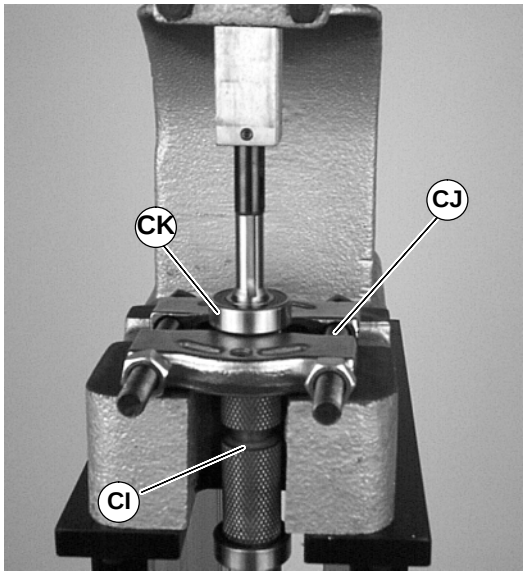



*Figure 50*

2. Using arbor press or similar device, press-off bearing (CK).

### Bearing Installation

1. Inspect seating surface(s) for damage. Replace if damaged.
2. Place two (2) 5/8 flat washers, or equivalent (CL of Figure 51), over the pulley shaft (CM) and against bearing (CK) (part # 802-124).

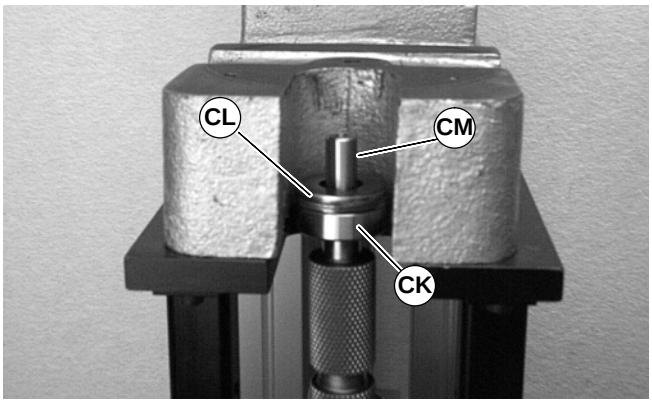



*Figure 51*

3. Place the shaft of tool (part # 450282) (CN of Figure 52) over pulley shaft (CM).

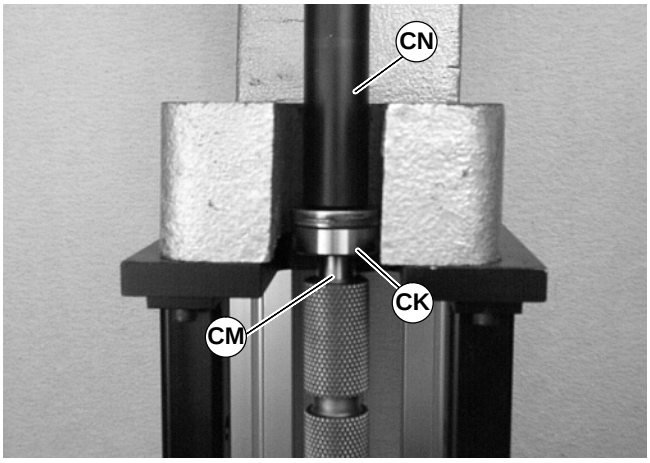



*Figure 52*

4. Using arbor press or similar device, press bearing onto pulley shaft as shown.

### Bearing Replacement for Idler Pulleys

**NOTE: Bearings can not be removed from idler pulleys. Replace entire pulley, when worn. See Service Parts section on page 21.**

## Pulley Replacement

### Conveyor End Pulley

1. With bearing installed in head plate, press bearing on to shaft (CH of Figure 53) of pulley. Repeat for both sides of pulley.

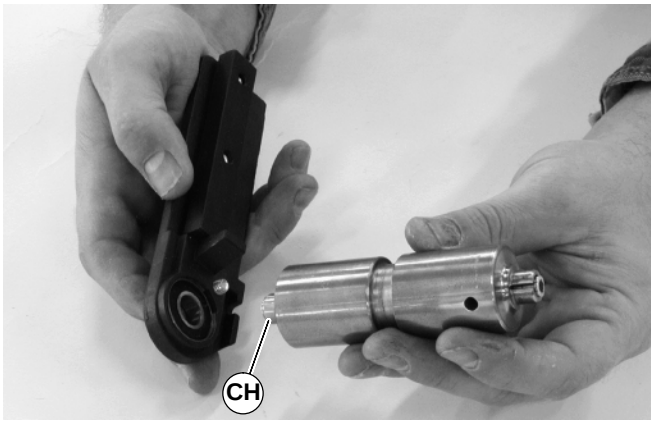



*Figure 53*

**NOTE: DO NOT tighten shaft bearing taper screws at this time.**

2. Install pulley assembly on conveyor. On both sides of conveyor, hand tighten fastening screws (U of Figure 54).

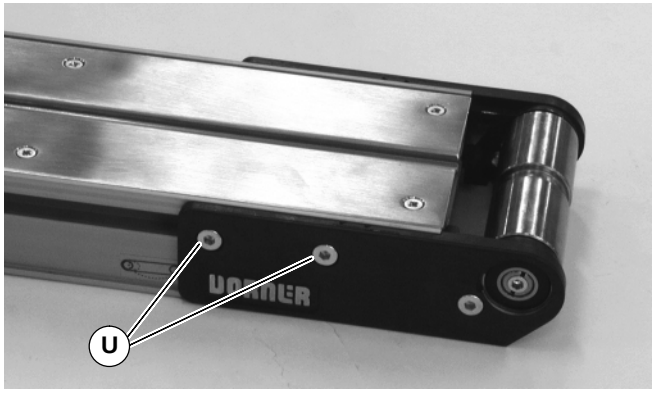



*Figure 54*

3. On both sides of pulley, use a 4mm hex-key wrench to tighten pulley taper screw (BY of Figure 55) to 35 in-lb (4 Nm). Steady pulley with second hex-key wrench (BZ) inserted into pulley hole.

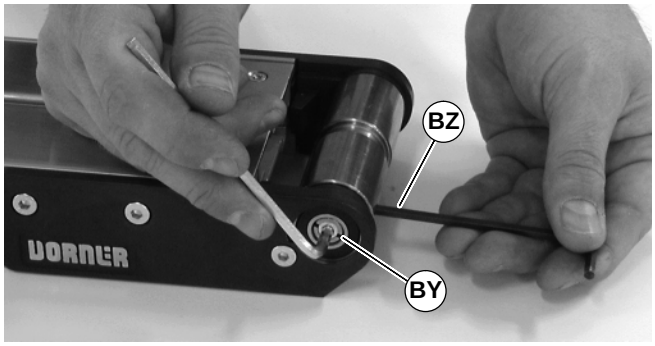



*Figure 55*

4. Install bearing covers (BX of Figure 56).

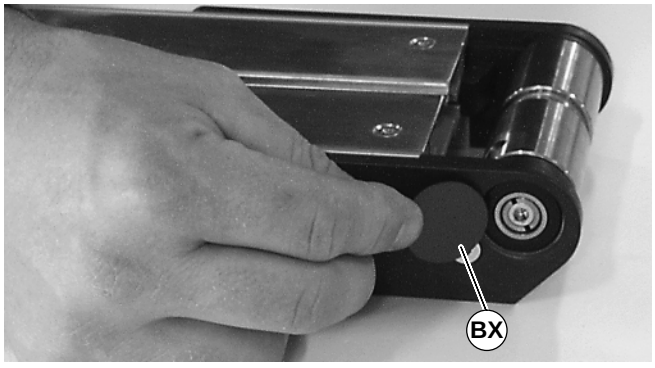



*Figure 56*

5. Re-install belt on end of conveyor, then tension the belt. See “Conveyor Tension End Adjustment”, page 14.

6. Re-position the cam assemblies against the head plates and adjust belt tracking. See “Conveyor Belt Tracking”, page 16.

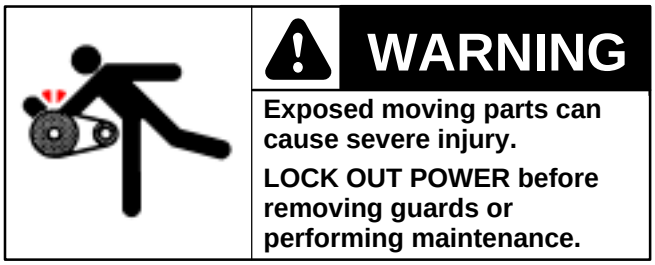
### Drive Module Drive Pulley

1. Reverse "Drive Module Drive Pulley Removal" procedure on page 17.
2. Re-install belt on end of conveyor, then tension the belt. See "Conveyor Tension End Adjustment", page 14.
3. Re-position the cam assemblies against the head plates and adjust belt tracking. See "Conveyor Belt Tracking", page 16.

### Drive Module Idler Pulley

1. Reverse "Drive Module Idler Pulley Removal" procedure on page 17.
2. Re-install belt on end of conveyor, then tension the belt. See "Conveyor Tension End Adjustment", page 14.
3. Re-position the cam assemblies against the head plates and adjust belt tracking. See "Conveyor Belt Tracking", page 16.

### Nose Bar Bearing Replacement




1. Remove the conveyor belt to access the bearings. Perform the indicated steps of one of the following procedures:

   - "Belt Removal for Conveyor Without Gearmotor Mounting Package or Stands", page 9, steps 1 through 7.
   - "Belt Removal for Conveyor With Stands and Gearmotor Mounting Package", page 10, steps 1 through 10.

2. On one side of conveyor, use a 3 mm and 4 mm hex-key wrench to remove head plate fastening screws (CP & U of Figure 57) and remove head plate (S).

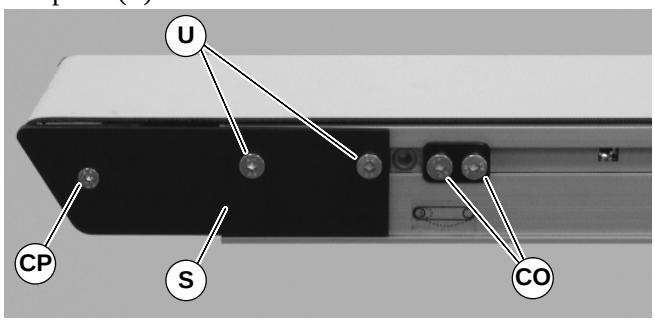



*Figure 57*

3. Slide bearing rods (CQ of Figure 58) out side of conveyor and replace bearings (CR) as necessary.

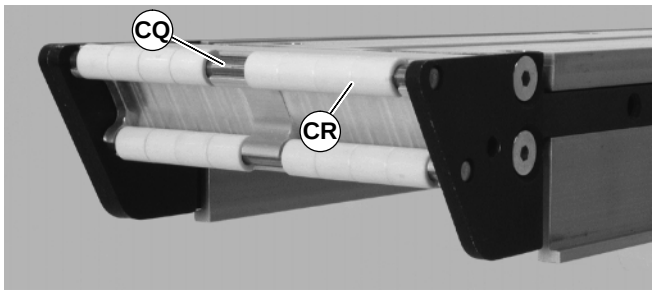



*Figure 58*

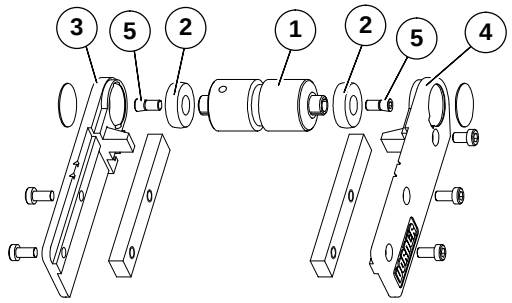
4. After replacing bearings, re-install head plate (S of Figure 57). Use a 3 mm hex-key wrench to tighten one (1) fastening screw (CP) to 30 in-lb (3.4 Nm). Leave two (2) fastening screws (U) loose for belt tensioning.
5. Re-install belt on end of conveyor, then tension the belt. See "Conveyor Tension End Adjustment", page 14.
6. Re-position the cam assemblies against the head plates and adjust belt tracking. See "Conveyor Belt Tracking", page 16.

## Replacement Parts

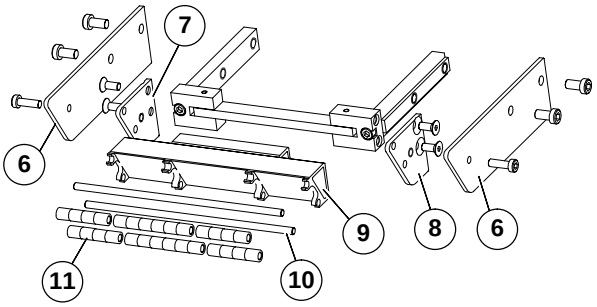
**NOTE: For replacement parts other than those shown on this page, contact an authorized Dorner Service Center or the factory.**

| Item | Part No. | Part Description |
|---|---|---|
| **Head Plate Assembly** | | |
| 1 | 2407WW* | Idler Pulley |
| 2 | 240328 | Pulley Bearing |
| 3 | 240325 | Head Plate, Left-Side |
| 4 | 240326 | Head Plate, Right-Side |
| 5 | 240330 | Bearing Taper Screw |
| **Nose Bar Assembly** | | |
| 6 | 241125 | Outside Head Plate (2x) |
| 7 | 241126 | Right Inside Head Plate |
| 8 | 241127 | Left Inside Head Plate |
| 9 | 2412WW* | Bearing Extension Support |
| 10 | 2413WW* | Bearing Shaft (2x) |
| 11 | 801–122 | Bearings |
| **Return Roller Assembly, 2–6¨ (51–152mm) Belts** | | |
| 12 | 240825 | Roller Assembly |
| **Return Roller Assembly, 8–24¨ (203–610mm) Belts** | | |
| 13 | 240826 | Return Roller Wheel (3x) |
| NOTE: WW = conveyor width | | |

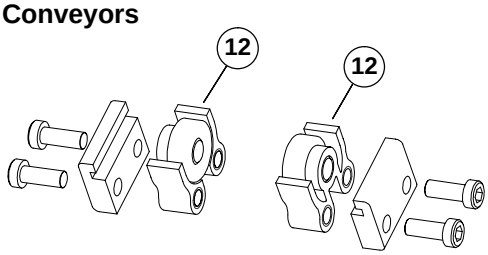
**Head Plate Assembly**



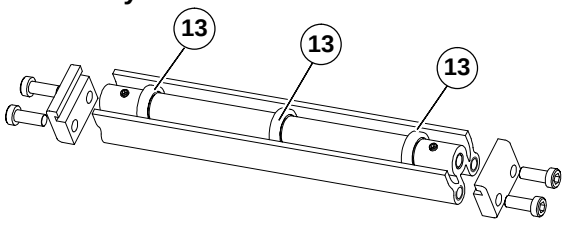

**Nose Bar Assembly**




**Roller Assembly for 2–6¨ (51–152mm) Wide Belt Conveyors**



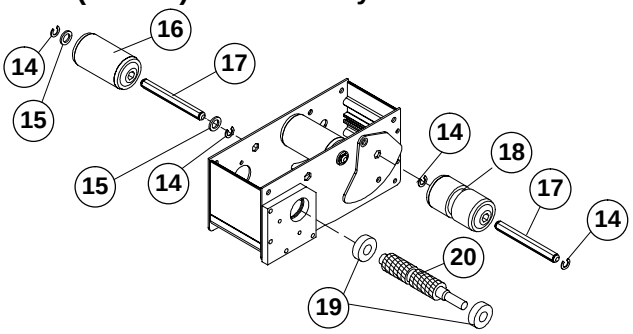

**Roller Assembly for 8–24¨ (203–610mm) Wide Belt Conveyors**



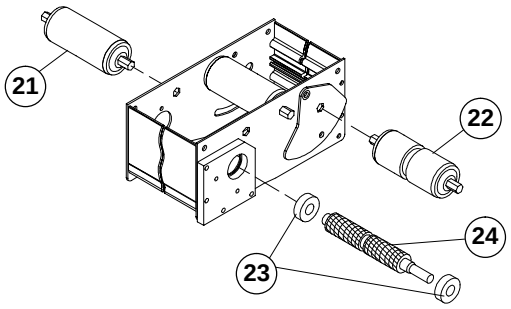
# Service Parts

| Item | Part No. | Part Description |
|---|---|---|
| **Drive Module, 2¨ (44mm), 3¨ (70mm), 4¨ (95m)** | | |
| 14 | 915-215 | E-Ring Clip (0.44 diameter) |
| 15 | 801-115 | Washer |
| 16 | 463046 | Idler Pulley, 2” (44 mm) |
| | 807-1007 | Idler Pulley, 3” (70 mm) |
| | 807-1008 | Idler Pulley, 4” (95 mm) |
| 17 | 463402 | Pulley Shaft, 2” (44 mm) |
| | 463403 | Pulley Shaft, 3” (70 mm) |
| | 463404 | Pulley Shaft, 4” (95 mm) |
| 18 | 463044 | Grooved Idler Pulley, 2” (44 mm) |
| | 463045 | Grooved Idler Pulley, 3” (70 mm) |
| | 807-1001 | Grooved Idler Pulley, 4” (95 mm) |
| 19 | 802-124 | Pulley Bearings |
| 20 | 463702M | Drive Pulley, 2” (44 mm) |
| | 463703M | Drive Pulley, 3” (70 mm) |
| | 463704M | Drive Pulley, 4” (95 mm) |
| **Drive Module, 5¨ (127mm) or wider** | | |
| 21 | 807-1009 | Idler Pulley, 5” (127 mm) |
| | 807-1010 | Idler Pulley, 6” (152 mm) |
| | 807-1011 | Idler Pulley, 8” (203 mm) |
| | 807-1012 | Idler Pulley, 10” (254 mm) |
| | 807-1013 | Idler Pulley, 12” (305 mm) |
| | 807-1088 | Idler Pulley, 18” (457 mm) |
| | 807-1089 | Idler Pulley, 21” (533 mm) |
| | 807-1090 | Idler Pulley, 24” (610 mm) |
| 22 | 807-1002 | Grooved Idler Pulley, 5” (127 mm) |
| | 807-1003 | Grooved Idler Pulley, 6” (152 mm) |
| | 807-1004 | Grooved Idler Pulley, 8” (203 mm) |
| | 807-1005 | Grooved Idler Pulley, 10” (254 mm) |
| | 807-1006 | Grooved Idler Pulley, 12” (305 mm) |
| | 807-1091 | Grooved Idler Pulley, 18” (457 mm) |
| | 807-1092 | Grooved Idler Pulley, 21” (533 mm) |
| | 807-1093 | Grooved Idler Pulley, 24” (610 mm) |
| 23 | 802-124 | Pulley Bearings |
| 24 | 463705M | Drive Pulley, 5” (127 mm) |
| | 463706M | Drive Pulley, 6” (152 mm) |
| | 463708M | Drive Pulley, 8” (203 mm) |
| | 463710M | Drive Pulley, 10” (254 mm) |
| | 463712M | Drive Pulley, 12” (305 mm) |
| | 463718M | Drive Pulley, 18” (457 mm) |
| | 463721M | Drive Pulley, 21” (533 mm) |
| | 463724M | Drive Pulley, 24” (610 mm) |

**Drive Module for 2¨ (44 mm), 3¨ (70 mm) & 4¨ (95 mm) Wide Conveyor**




**Drive Module for 5¨ (127 mm) or Wider Conveyor**



## Conveyor Belt Part Number Configuration

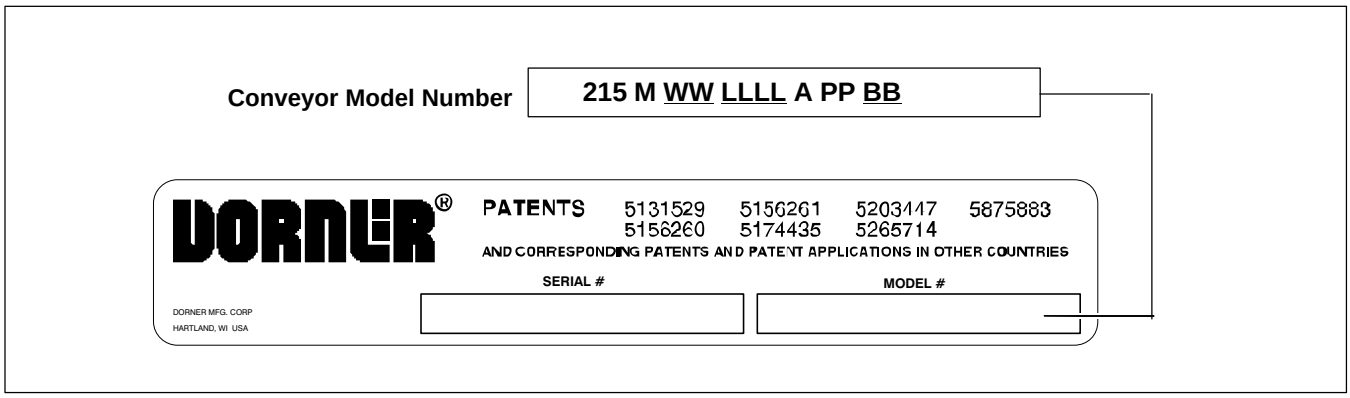



***Figure 59***

Refer to Dorner patent plate (Figure 59). From the model number, determine conveyor width ("WW"), length ("LLLL") and belt type ("BB"). Use data to configure belt part number as indicated below. *****Add "V" for V-guided belts.

**25 - WW LLLL / BB V ***

**22-** ____ (Fill In) ____ **/** ____ **V ***

# Return Policy

No returns will be accepted without prior written factory authorization. When calling for authorization, please have the following information ready for the Dorner Factory representative or your local distributor:

1. Name and address of customer.
2. Item(s) being returned.
3. Reason for return.
4. Customer's original order number used when ordering the item(s).
5. Dorner or distributor invoice number.

A representative will discuss action to be taken on the Returned items and provide a Returned Goods Authorization Number to reference.

There will be a 15% restocking charge on all new items returned for credit where Dorner was not at fault. These will not be accepted after 60 days from original invoice date. The restocking charge covers inspection, cleaning, disassembly, and reissuing to inventory.

If a replacement is needed prior to evaluation of returned item, a purchase order must be issued. Credit (if any) is issued only after return and evaluation is complete.

Dorner has representatives throughout the world. Feel free to contact Dorner for the name of your local representative. Our technical sales and service staff will gladly help with your questions on Dorner products.

For a copy of Dorner's Limited Warranty, contact factory, distributor, service center or visit our website at www.dorner.com.

**For replacement parts, contact an authorized Dorner Service Center or the factory.**

DORNER®



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